

REMARKS

Claims 1-20 are pending in the application and stand rejected. Claims 1-20 have been amended. No new matter is added. In light of the foregoing amendments and the following remarks, Applicants earnestly solicit favorable reconsideration. Applicants have amended the claims to be method claims.

On the Merits

Claim Rejections - 35 U.S.C. § 102(b)

Claims 1-20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by EP 1 085 586, hereinafter referred to as *Inomata*.

Independent Claim 1:

Independent claim 1 now requires in part:

injecting a spin polarization electron from said spin injection part by flowing electric current between said spin polarizing part and said second magnetic layer, wherein magnetization of said first and second magnetic layers is reversed while maintained in antiparallel state without applying an external magnetic field, and wherein
said flowing electric current is 1 mA or less.

Applicants respectfully submit that these features are not disclosed or fairly suggested by the cited reference.

Applicants respectfully disagree with the Examiner's position that "magnetization reversing is performed by electric current without applying magnetization," as recited in claim 1, is described by *Inomata* so that they are mutually indistinguishable.

Based on the description (*Inomata*, paragraph [0059] lines 13-15) below, a magnetization reversing of magnetic resistance effect device (TMR) of *Inomata's* device needs the external magnetic field.

"Thus, the MRAM has a suitable structure to supply the spin current and the current magnetic field to the magnetic recording layer to control the current density flowing in the wire and the TMR element."

The above-mentioned "wire" is the wiring or interconnection lines to generate an external magnetic field, namely, "current magnetic field."

The present invention involves the inventive step in that the spin injection magnetization reversing which has so far been realized by *Inomata's* magnetic resistance effect device was found to be realized without applying external magnetic field.

The device disclosed by *Inomata* is the magnetic resistance effect device (TMR), which could not perform magnetization reversing without applying external magnetic field.

It is explicitly described in *Inomata's* paragraph [0021] that *Inomata's* TMR needs current magnetic field, as

“A method of writing information to the above magnetic memory devices comprises steps of supplying the magnetic recording layer with a spin current through the first or second magnetization pinned layer; and flowing a current in a wire so as to apply current magnetic field to the magnetic recording layer.”

Independent Claims 7, 15 and 17:

As independent claims 7, 15 and 17 contain similar features to that discussed above regarding claim 1, the same arguments also apply.

Dependent Claims:

As dependent claims 2-6, 8-14, 16 and 18-20 ultimately depend from independent claims 1, 7, 15 and 17, the arguments presented above regarding the independent claims also applies to the dependent claims.

In view of the above, Applicants respectfully submit that their claimed invention is allowable and ask that the rejection under 35 U.S.C. § 102 be reconsidered and withdrawn. Applicants respectfully submit that this case is in condition for allowance and allowance is respectfully solicited.

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Art Unit: 2814

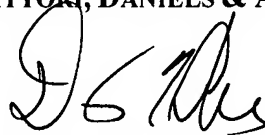
Response
Attorney Docket No.: 052684

If any points remain at issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the local exchange number listed below.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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